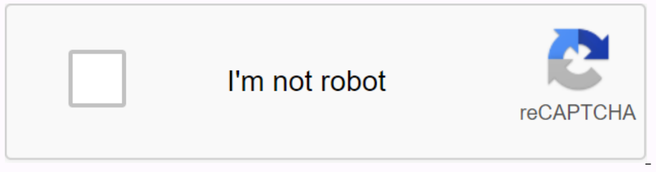

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Informe de calicatas mecanica de suelos pdf

1. STUDY WAS SOIL JEOMECANIC BY CALICATA TEST MADE KALIKATA DECEMBER 14, 2016 TOSHIBA UNSAAC_ING. GEOLOGIC 2. TEST AT KALIKATAS PRACTICAL GEOMECANICA DE SUELOS 1 NATIONAL UNIVERSITY IN SAN ANTONIO ABAD DE CUSCO Faculty of Geologic Engineering, Mining and Metalurgy Professional School of Geologic Engineering GEOCANICA DELOS. GEOMECANIC STUDIED THE TEST OF CALICA TEST UNSAAC_CUSCO_PERU_2016 LATE. . . . . TESTS OF KALIKATAS PRACTICAL GEOMECANICA DE SUELOS 2 INTRODUCTION: Areas of study belongs to the chinchero (pliocene training) which consists of a clay clay matrix of sand from the erosion of Maas Formation, Ayabacas and Puquin i.e. limestone, loo and litita, the goal of the kalikata study is the assessment and characterization of the horizons being acquired in order to know the quality of the soil and what projects can be carried out. In the end we'll draw a conclusion to arena's assessment no. 4. TEST OF CALICATAS PRACTICING GEOMECANICA DE SUELOS 3 SUMMARY: In mechanical technique the most common method to conduct a arena study is the realization of one or more calikatas in areas where a project can be carried out to define the parameters of the ground, so we did a calicata of 2mx2mx2m in length in the area of the Soccapata Cuper Under Chinchero cuper , in which we were able to observe that the soil is in coluvial court materials of highly compact liters of different colors, in the area you can do construction at home no more than 8 floor, later we will publish the study of the calicata in detail. 5. TEST OF PRACTICAL KALICATAS GEOMECANICA IN FLOOR 4 CHAPTER I ASPECT GENERAL 1.1 WHERE WITH EXTENSIONS..... Pgn5.1.1.1 POLITICA LOCATION .....no need to be... Pgn5.1.1.2GRAPHIC WHERE .....not to... be a good pgn5. Pgn6.1.2 ACCESSSIABILITY .....not to... Pgn7.1.3 goals...1..3... to... be a good one. Pgn7.1.3.1. GENERAL PURPOSE ... ... Pgn7.1.3.2. SPECIFIC OBJECTIVES..... Pgn7.1.4 HIPOTESIS .....not to... be a good one of the others. Pgn7. CHAPTER II CONCEPTIVE THEORETICAL BRAND 2.1 TheORETICAL BRAND..... Pgn8.2.1.1 GEOMECACA DE 2.1.2 CALICATA...2..2.....2.1.2.....2.1.2.....2.1.2.....2.1.2.1.1.2..... Pgn9. - CLASSIFICATION OF HORIZONTES..... Pgn10.2.2 CONCEPTUAL MARK...2.....no need to be a big idea. Pgn11.CHAPTER III MATERIAL AND EQUIPMENT 3.1 FIELD MATERIAL..... Pgn13.3.2 GABINE MATERIAL..... Pgn13.3.3 GARDEN EQUIPMENT .....no need to be a good fittings for your needs. Pgn13.3.4 FECES EQUIPMENT .....not a good fittings. Pgn13. CHAPTER IV JEOLOGIA 4.1. LOCAL JEOLOGIA .....not accommodation. Pgn14 4.1.1 CHINCHEROFORMATION .....not to... Pgn14 4.2. Extraction ... ... Pg14 6. TESTS OF KALICATAS PRACTICING GEOMECANICA DE SUELOS 5 CHAPTER 5 CHAPTER V DIAGNOSTIC PHYSICS – SETTING 5.1 PROCEDURES ..... Pgn15.5.2 DEVELOPMENT WORK.....no need to... be a good job. Pgn16.CONCLUSION .....not to... to be conclusive. Pgn29.BIBLIOGRAFIA .....not to... Pgn30 7. TEST AT KALIKATAS PRACTICE GEOMECANICA IN FLOOR 6 CHAPTER I 1. GENERAL ASPECT 1.1.- WHERE 1.1.1 POLICY WHERE THE STUDY AREA IS LOCATED IN THE CITY OF CUPER BAJO, NORTHWEST OF THE CITY OF Cusco, The District of Chinchero, Urubaba Province, Kusko Department. (See Location Map) RENTAL POLICY DEPARTMENT OF CUSCO PROVINCE URUBAMBACT DISTRICT CHINCHERO COMMUNITY CUPER SECTOR CUPER UNDER 1.1.2 GEOGRAPHCA LOCATION: Areas of study located in the following geographic coordinates and coordinated UTM: KOWOdone UTM: CORROBORATES ADINATES UTM NORTH 851544.695 THIS 171984.734 HEIGHT 3762.7 msnm ZONE 18S PROJECTION WGS84 1.2.2.- ACCESSSIBILITY Area of study is accessible in the city of Cusco, By means of transportation to urban land linked to Cusco-Chinchero District-Kipite community under Sokhapata sector , at a time of approximately 1 hour and a distance of 25km per track coffee. 8. TEST OF KALIKATAS PRACTICAL GEOMECANICA DE SUELOS 7.3.- GENERAL PURPOSE OF THE GENERAL PURPOSE OF THIS STUDY Geomechanical Soil is horizons arena, taking into account geologic and sedimentological characteristics in order to know what kind of country it is to know what kind of projects can be carried out. 1.3.2 SPECIFIC PURPOSE – Determined is the horizons thickness – Determine the horizons fragments – Determine the fragments stone (size and shape) – Determine the color, texture, etc. - Determine the level was low. • Determine the plastic and elastic floor limits. 1.4.- HIPOTESIS The Application of the geology and the geology was at work under ground, providing close data for the design and examination, in this case the method of calikatas of 2.5m probe will allow us to know the best structural behavior and identification of the horizons of the earth and sedimentology. PHOTO No. 01: Satellite images of the district of Chinchero - Cuper Under 9. TEST OF THE KALIKATAS PRACTICAL GEOMECANICA FLOOR 8 CHAPTER II 2. CONCEPTUAL THEORICO MARK 2.1 THEORICO MARK 2.1.1: Geomechanics Saul: It is the implementation of the laws of physics and natural sciences in problems involving the burdens imposed on the surface layers of the Earth's crust. This science was founded by Karl von Terzaghi, from 1925. All civil engineering works relying on the ground in one way or another, and many of them also use the country as a building component for embarking, dom and filling in general; therefore, its functional and behavioral stability will be determined, among other factors, in the performance of the seat material located in depth the influence of the efforts produced, or by way of the floor used to form fillings. If the limitations of capacity-resisting the earth are exceeded or if, even without reaching them, deformations are considerable, high efforts can reach structural membership, perhaps by taking into consideration of the design, producers of turns in significant deformation, cracks, cracks, roll-up or collapse that can produce, in extreme cases, fall into the work or it cannot be used and discarded. Consequently, terrain conditions as a component of support and construction with the contents of the foundation as a transitional device between that and the superstrikture, must always be observed, even if this is done in small projects founded on normal soil in the light of statistical data and local experiments, and in the medium of high importance projects or in dibile fields , enfallibly, through appropriate mechanical research. Kalikata: Kalikatas or flavors are one of the standing techniques used to facilitate geotechnical recognition, terrain or pedological studies in a plot. They are gradually in-depth medium depth, usually carried out with auto picks. Kalikatas Are Direct inspection of the earth to be studied and therefore the method of exploration that normally delivers the most reliable and complete information. In severe soil, kalikata is only means of exploration that can deliver reliable information, and is a very effective means of exploring and sample foundation floors and building materials at a relatively low cost. It is necessary to record the location and elevation of each assets, depending on the location. If a well-scheduled do not run, it is preferable to keep the assets number in the log as uneed rather than reuse the number elsewhere, eliminating confusion. Depth is determined by the demands of research, but is generally provided by the water board. The recommended minimum section is 0.80m by 1.00m, in order to allow adequate inspection of the walls. The excavated material must be deposited on the surface in an order manner separately according to depths corresponding to horizons. 10. TESTS OF CALICATAS PRACTICING GEOMECANICA DE SUELOS 9 All contaminated materials and the different stratat was to be dumped. Platforms or steps from 0.30 to 0.40 meters will be left in change in stratum, reducing the exam. This allows a surface to determine the terrain density. At least one of the walls should be left as smooth and contaminated as possible, for them that they faithfully represent the stratigraphic profile of assets. A visual description or file on compromising estratigraphy must be made in each clugraphy. Kalikata is allowed: a visual inspection of the plot of situations. • Samples. • Have some field trial. Saul Horizons: A series of horizontal strategies that develop inside the earth and introduce different characters in composition, textures, adhesion, etc. are called saul horizons. The profile has sol is the vertical command of all these horizons. Classically, three fundamental horizons distinguished in the complete soil or evolved from direction to surface are: HorizonS O, or Horizons Surface Layer A: It is the most superficial part of earth, formed by leaves, branches and plants remaining. Horizon A, or vertical washing area: it is the snare and of it the beautiful vegetation rooted. Its colors are usually dark by the abundance of decomposed organic matter or elaborate imit, determining the passage of water by dragging it down, fine-sized fragments and solib compounds. Horizon B or precipice area: it has virtually no humility, so its color is lighter (brown or red), it deposites the drag materials from above, mostly clay materials, oxide and hydroxide metal, etc., set to this level shrink infertile calculation with tropical cycle. Horizon C or subsoil: It consists of the highest part of the stone material in situations, on which the rest were, more or less fragmented by mechanical and chemical changes (chemical alternatives are almost non-existent since the early stages of training were usually no organic colonization), but in it can still recognize the original features of it. Horizon D , horizons R, mother of rock or rock material: it is the underlying material that has not suffered any significant chemical or physical alternative. Some distinction between D, when the Earth is authentic and the horizon represents the maternal rock, and R, when the earth is alloctone and the stone represents only a physical basis without a special relationship and the mineral composition of the soil above it. Horizon E, layer is not always present. The horizon of washing or rearing. It is usually dark in color, and has a structure with little laminar development. 11. TEST OF CALICATAS PRACTICING GEOMECANICA DE SUELOS 10 Soil Texture: Solvent texture is the proportion of which various elementary particles can form a distributed substrate. Troubleshooting of the size, porosity or absorption of water in the soil particles or substrate, it can be classified into 3 core groups that are: sand, sixty and clay. A more detailed classification of Soil is presented in the following table, which gives a initial indication of the characteristics of terrain constitution and their influence on agronomical properties, such as land airfield, permeable land rectum capacity, etc. However, this classification does not take into account the quality and ownership of certain terrain elements, which can cause decisive actions on the dynamics of the soil itself and on the water-to-ground ratio. TABLE No. 01: Box textures Saul 12. TEST PRACTICING KALIKATAS GEOMECANICA DE SUELOS 11.2 DESIGN MARKS : It is the property that sedimentary rock has to be available in layers or strategies, one on top of each other in a vertical sequence. A strategy is a body painting of sedimentary rocks, in essentially homogeneous composition, limited by its flat surface called airplane extraction, representing changes in sediment conditions. • Failure: Considerations in two bodies and traces of stretch movement brands – CALICATA: Kalikata or flavors are one of the canvases used techniques to facilitate geotechnical recognition, terrain or pedological science. They are small in medium depth assessment, usually carried out with rear-hoe bread photo No. 01: The triangle of textures was 13. TEST OF THE KALIKATAS PRACTICAL GEOMECANICA FLOOR 12 CHAPTER 4. MATERIALS AND METHOD 5. 3.1. EQUIPMENT & KITS TOOL 3.1.1 FIELD MATERIAL - GPS - Peak - Wincha - Barreta - Gloves - Vest - Heldo 3.1.1.2 GABINE MATERIAL – Arcgis - Googleearth 14. TESTS OF KALIKATAS PRACTICAL GEOMECANICA DE SUELOS 13 CHAPTER III REGIONAL GEOLOGIA: 1.CHINCHERO TRAINING: Pliocene Definition and Extratigraphic Relations. The Chinchero Formation (Cabrera, 1988) or Pumamarca (Córdova et al., 1994) appears on the northern slope of the Cuscoco value, where it overlies the marasmus and training Ayabacas. Lithology and environmental sedimentation. Due to its letterological composition and color, this training is sometimes confused with the chaotic and distorted part of the Maras training. It is made up of games with a clay clay sand matrix. In general, the different classical elements that make up the Chinchero Training come from the erosion of the Maras, Ayabacas and Puquín training, i.e. limestone, filled with lutites of different colors. Deposits match to torrential knowledge. The thickness is variable, with a maximum of 200 m and is composed of decreased sequence seeds and reduced strategy (Cabrera, 1988). This unit evolved from sequence to interratified torrential counts with gaps in the middle, in fluvio-torrential media and slightly rounded elements at the top. A unit similar to the Chincheros training was also identified in the depression of Ccatca (Cabrera, 1998). These are essentially gravel rivers and alluvial cornea, which occur on the western edge of the bowl. The maximum thickness is 70 m. Age. Cabrera (1988) assigned him a Neogenous age, perhaps Miocena or Pliocena, although Carlotto (1998) specified his best and assigned him an age Pliocena

by overyacer of the Upper Miper Miocene Paro training. However, for the reasons of scale, he was back in the San Sebastian Training at the Plio-Quaternario. 2.MARAS TRAINING: Albian Medium Definition and Graphical Relations. For four reasons, as in the quadrangulos of Kalca and Iubamba was regarded as Maras Trained all the extraterrobes or chaotics of vessels and duels displayed in the Yuncaypata Group, including patches that suffered remobilization by tender and diapric effects. It is for this reason that on this four geological unit appears not to cut irregularly from stone to younger ages. It appears on Sacsayhuamán Plateau north of Cusco, and also does so in Paccaritambo, passing through Huanoquite, where it is cut from the Anta del Eoceno Formation. However, the most important products are found in Quadrant II, where the Maras Training Slash Training Soncco and Punacancha training; here you can see olistolitos of the Ayabacas Limestones. Lithology and environmental sedimentation. The Maras training is basically composed of mixture of plaster and purple duel and more sparsely green with some 15 levels. TESTS OF KALICATAS PRACTICING GEOMECANICA DE SUELOS 14 in limestones of thin thickness (3 to 7 meters) or thick limestones that actually match the sliding limestones in the Ayabacasca formation. Lutitas seems to be in the origins of the lak, sabkha plates and very strong sea limestones. In most cases, contact relationships indicate the locations are not effects of diapirism or technology, as seen in failures of the altiplano-Cordlera timor boundary, or in Occopata, where it cuts the antique to the same name. However, many of these products are originally Ayabacas Training olitolistos that have slipped during sedimentation and involved the subtracting of tears and ranking, as can be seen in Quadrant II around Huacocha Lagoon. It's hard to calculate the total thickness of this unit by the chaotic way of presenting, but it can estimate between 100 and 400 m, although in some places they may exceed those values by tekonic rehearsals or by diapirism. Age. The average Albany age of the Maras Training is supposed based on its stratigraphic position and correlation; as it overlies Paucarbamba's training in possible lower Aptian-Albiana ages and supports the Ayabacas limes in albi-Turonian. 3. - AYABACAS TRAINING: Upper Albian- Turonian Definition and Relationship Stratigraphics. The Ayabacas or Yuncaypata Limestone Training (Kalafatovich, 1957) also or disarmonically or chaoticly. These limestones do not appear in many extratigraphic sections of the Yuncaypata Group, while in others they do so abundant as a result of sedimentary-free slide, as seen north of Akayo and Cusco. Lithology and environmental sedimentation. It consist of limestones that often dolomitize; however, dark gray invoicing, bioturped or not mudstone roof, more or less bioclastic faculty-packestone-packone, with less frequent tablet fax seeds and byoclast oolitos or quartz seeds being recognized. Some capabilities appear with imitation (dissolution) figures, and appearance of spaces and figures in slump-like structures. Analysis of the prosecution allowed Carlotto (1992) and Carlotto et al. (1992) to determine that the Ayabacas limestones were formed on a carbonized platform. The media range from infrared to intertidal, and even supratidal. Sedimentation was controlled by static variations in the ocean. Face distribution and sedimentary discontinuity have made it possible to define the four transgressive sequences (Carlotto, 1992; Carlotto, et al 1992) which can be corrected with well-dated equivalent sequences from the south west of Peruvian, where they are known as Ferrobamba or Arcurquina Training. Difference in thickness, at normal sinful faults, slippery and gap levels suggest that the relief was slightly bumpy (Carlotto, 1992) and that during significant slippery sedimentations occurred. This would explain why limestone focus only in some places. Similar phenomena was described in the Ayabacas Limestones in the 16th. TESTS AT KALICATAS PRACTICAL GEOMECANICA DE SUELOS 15 regions of Sicuani (Audebaud, 1967, 1973) and also in Ferrobamba's limestones of the codile commando (Carlotto et al., 2006). Age. In Qenqo and Sacsayhuamán, just near the border with the Chalk kwadrangil, Kalafatovich (1957) found the ammonite of species Neolobites sp., indicating a Senomanian age. By correlation with arcurquina limestones, the age of training ranges from The Upper Albian to the Turonian. Ayabacas training in Cusco correlates with those of Puno who also have the harmony of the Albian-Cenomanian (Cabrera and Petersen, 1936). It also does with the ferrobamba and Arcurquina training in the southern payroll area, with the Jumasha formation in central Peru, and partly with the Kaliyan Agua training and lower the Chonta formation of the basin east. 4. - PUQUIN TRAINING: Coniatian-Maestrichtiano Definitions and Graphic Relations. The Puquin Training (Carlotto, 1992; Carlotto et al., 1992) More than the Ayabacas Training, but in general, contacts match a level of pranoff. The Puquin formation, such as the Vilquechico Training, in the Puno region is divided into three members named M1, M2 and M3, with widely merge of the nucleus of the Antique Puquinal, in the antique to Saylla, to the north of Saylla, between Rondocan and San Juan de Quihuares and north of Aka. Lithology and environmental sedimentation. M1 members (30m) of the Puquin sector (Carlotto, 1992) consists of red duty, severed plates, nodolos or mesh with gaps and pelitic elements, indicating a continent's sand medium. Towards themselves the dolomit of lamine, interspersed with patches of intertidal medium. Members of M2 (180 m) emerging largely from antique injection. It consists of two sequences of lower orders: AM2 (100 to 150 m) and BM2 (30 to 60 m), which is transgressive to the base (areow and navy convenient) and regressive on the roof (last). The basal sequences consist of limestones, marshes, black lutitas rich in organic and pyestrian problems (Photo 22), while the middle and upper lith parts aren't green and red litel associated with laminate plaster, nodulous and mesh concrete. M3 members (>170 m) are emerging in the antique puquinal, where M2 Members is overyying, however, in this sector the same roof is partially eroded. This member is essentially sand and globally more detrimental than the precedents (Figure 12); begins with river sand banks, followed by colitis in lititas, and rain and international limestones, whereas the middle and upper grains of rising strattom is represented by red and river-based feldsostatic sandstones, of Southern origin. Age. M1 members did not report fossils but by its regional comparison assigns a Coniaciana-Santonian age. The base sequences of AM2 and BM2 to M2 Members are assigned to the Santonian Medium and Campaignin respectively in their regional correlation. In Puquín, part of the circle of BM2 contains platychara pelata and Feistiella ovalis (Carlotto et al., 1992; Jaillard et al., 1994), indicating a Middle-Maestrichtiana Campaniana age. In the same section of Puquín, in Members of M3 the presence of Carom Feistiella Distillery and Platychara grambastii (Carlotto et al, 1992; Jaillard et al, 1994) 17. TEST OF THE KALIKATAS PRACTICAL GEOMECANICA FLOOR 16 CHAPTER IV 4. DEVELOPMENT 4.1.1. DEVELOPMENT OF THE TEST TO identify different surface levels in the area of study, a calicata was conducted. This test consists of a manual examination with maximum depth approximately 2.5 meters, from which a detailed description of the thickness of the subsurface levels is found. 4.1.2. STEPS TO FOLLOW IN THE KALIKATA. A. ELECTION OF TERRENOA MAKES KALIKATA A. B. TAKE THE RESPECTIVE MEASURE. PHOTO No 01: The country measuring for the calicata.PHOTO No 02: The marked land for calicata 18 is observed. TEST AT KALIKATAS PRACTICAL GEOMECANICA FLOOR 17 C. CLEAR AND CLEAN UP THE WORK AREA. D. START WITH THE EXAMINATION OF THE PLOT.E.WE CLOSED THE EXAM AREA WITH A RED RIBBON FOR SAFETY MEASURES. PHOTO No 05: A progress in the calicata and safety of calicata observed to prevent an accident. PHOTO No. 03: The cleanliness of the ground is observed by taking out all the plant cover. PHOTO No. 04: Start of the test of the observed calicata. 19. TEST PRACTICING KALIKATAS GEOMECANICA DE SUELOS 18 F. WE IDENTIFY THE HORIZONS OF SUBSUELO G. WE TAKE THE MEDIATIONS IN THE THICKNESS OF EACH PHOTO HORIZONS No. 06: Changes to different HORIZONS PHOTO No. 07 are clearly observed: Horizons Measure 0 is observed with a power of 6cm 20. TEST AT KALIKATAS PRACTICE GEOMECANICA DE SUELOS 19 H. SACAMOS MUESTAS OF LOS HORIZONTES PHOTO NO. 08: Measures the horizons with a power of 33cm. PHOTO No. 09 is observed: A sample of a horizon is observed to make the corresponding quarter 21. TESTING OF THE KALIKATAS GEOMECANICA PRACTICE IN SAUL 20 I. WE QUARTET SAMPLE J. WE TAKE A REPRESENTATIVE NOTE TO THE RESPECTIVE QUARTER. PHOTO No. 10: Example Quartet PHOTO No. 11: Once the sample is calculated, a representative sample is chosen for analysis. 22. TEST GEOMECANIC SAUL CALICATAS 21 4.1.3. HORIZONTES DESCRIPTION A) HORIZONTE 0: observing a layer of plant material storage at approximately 7 cm, which is composed of plant roots, the color is red brownish and has fine materials (alm fine). b) HORIZONTE A: A layer with deep roots and a thickness of approximately 33cm observed. Red Brownish with little granular appearances, some angular classes are observed. PHOTO No 12: Horizon 0. PHOTO No. 13: Horizon A. 23. TEST AT KALIKATAS PRACTICE GEOMECANICA DE SUELOS 22C) HORIZONTAL B: A layer of approximately 55 cm. Is red thick brownish observed, on horizons this is observed angular grade of very changing liter and little presence of deep roots. Horizon A: Sample HorizonS A, then quarter and finally take a representative sample of the quarter, for ground analysis. Photo No. 13: Sample Horizons B, in which on this horizon found a variety of duel changes with a variety of colors. 24. TEST IN CALIKATASIC CLASSIC GEOMECANICA DE SUELOS 23 d) HORIZONTE C: A layer of about 95 cm. Red brownish sword, on this horizon is observed angular grade of highly changed wrestling with larger English sandstone and well compacted material of title.e) HORIZONTE D: A layer of approximately 35 cm thick red brownish observed, on this horizon contains angular class of funeral tittes. Photo No. 14: Sample Horizons C, in which on this horizon found a variety of sandstones and lutites with the presence of currents of water. PHOTO No. 15: Horizon D.25. TEST AT KALIKATAS PRACTICAL GEOMECANICA DE SUELOS 24 CONCLUSION - In the calicata do 5 horizons were found, which consists of one type of material (quarter), which tells us that there was a drag of different material so that the work area is in a collapsed area, in which it can be observed that a slide has occurred before. this repository is kolvil as it is observed has angular classes. Between horizons B and C, we can observe a wet area that tells us that water was still actively flowing into that area. At the top of the Cuper community Bajo there is a fault, as this is the explanation for the incident in the area's study areas, as there are water uptakes for irrigation. RECOMMENDATIONS – There is more extensive knowledge of the geology in the area of study. At times of rain to access the place you must go with the right clothes and equipment necessary personal protection, to prevent any downsides. BIBLIOGRAPHY 1. Cusco Quadrangulo - INGEMMET 2. 3. Itemid-111&language-east 4. 7_geodinmica.html 5. 6. 26. TES NAN KALIKATAS TES JEOMEKANIK 25 ANEKS PHOTO NO. 16 PHOTO NO. 18 PHOTO NO. 17 17